IN THE CLAIMS

Claims 1-7 (Canceled).

8 (Original). An optical demultiplexer comprising:

a semiconductor substrate;

a waveguide core over said substrate;

a thin film filter to reflect light of at least one wavelength and to pass light of at least one other wavelength arranged in alignment with said waveguide core; and

a reflective surface aligned with said thin film filter and said waveguide core to reflect light of a wavelength passed by said thin film filter.

9 (Original). The demultiplexer of claim 8 including a photodetector arranged to detect light reflected by said thin film filter.

10 (Original). The demultiplexer of claim 8 including a photodetector to detect light reflected by said reflective surface.

11 (Original). The demultiplexer of claim 8 including upper and lower cladding on said core and a trench through said cladding defining said reflective surface, said trench filled with a filler material whose index of refraction matches that of said cladding, said thin film filter formed on said filler material.

12 (Currently Amended). A method comprising:

forming a slot between a pair of waveguide cores in a planar light circuit; ~~and~~

mounting a thin film filter on a U-shaped module so that a portion of said thin film filter is unsupported; and

inserting said module ~~a thin film filter~~ between said waveguide cores.

Claim 13 (Canceled).

14 (Currently Amended). The method of claim 12 ~~13~~ including forming an aperture in said planar light circuit to receive said module and inserting said thin film filter into said slot and inserting said module into said planar light circuit aperture.

15 (Original). The method of claim 14 including providing alignment marks on said module and said planar light circuit to align said module with said planar light circuit.

16 (Currently Amended). A planar light circuit comprising:

a first waveguide and a second waveguide, said waveguides separated by a slot; and

a thin film filter in said slot between said waveguides, said thin film filter mounted on a module, said module including alignment marks and said planar light circuit including alignment marks.

Claim 17 (Canceled).

18 (Currently Amended). The circuit of claim 16 ~~17~~ including an aperture in said planar light circuit to receive a portion of said module.

Claim 19 (Canceled).

20 (Currently Amended). The circuit of claim 18 ~~19~~ wherein said module is U-shaped including a slot through its lower surface providing an unsupported portion of said thin film filter.

21 (Original). The circuit of claim 20 wherein said slot fits over a portion of said planar light circuit and allows one of said waveguides to pass through said module.

22 (Original). A planar light circuit comprising:

a first waveguide; and

a trench formed in said planar light circuit, said trench having a curved reflective surface, said surface to act as a mode converter.

23 (Original). The circuit of claim 22 wherein said reflector is spherical.

24 (Original). The circuit of claim 22 including a laser mounted over said trench on said circuit.

25 (Original). The circuit of claim 24 including a vertical cavity surface effect laser mounted over said trench.

26 (Original). The circuit of claim 22 including a detector mounted over said trench.

27 (Original). A method comprising:

forming a trench in a planar light circuit;

forming a curved reflective surface in said trench aligned with a waveguide in said circuit; and

using said reflective surface to convert the mode of light extending to or from said waveguide.

28 (Original). The method of claim 27 including mounting a laser over said trench on said circuit.

29 (Original). The method of claim 27 including forming a spherical reflective surface.

30 (Original). The method of claim 27 including mounting a vertical cavity surface effect laser over said trench.

31 (Original). The method of claim 27 including mounting a detector over said trench.